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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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21603	7590	11/16/2006	EXAMINER	
DAVID E. LOVEJOY, REG. NO. 22,748			SILVER, DAVID	
102 REED RANCH ROAD			ART UNIT	
TIBURON, CA 94920-2025			PAPER NUMBER	
			2128	

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/992,121	Applicant(s) HILTON, RONALD	
	Examiner David Silver	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-7 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

1. Claims 1-7 were originally presented for examination.
2. Claims 1-7 were rejected.
3. Applicant has filed a Requested for Continued Examination on 10/13/2006, accompanied by Remarks/Arguments ("Remarks").
4. Claim 2 has been cancelled.
5. Claims 1, 3-7 are currently pending in Instant Application.

Response to Arguments

Response: Information Disclosure Statement (Section 5 of Remarks)

6. Background:

A reference submitted for consideration was illegible. Therefore, the reference was not considered.

7. Applicant states:

"Applicant has made diligent search for a more legible copy and has not been able to obtain one."

Applicant also "believes, as far as can be understood from the illegible copy, that the article adds no information more relevant than the other articles in the IDS submitted."

8. Examiner Response:

The Examiner thanks the Applicant for the diligent search. Full faith and credit is extended to the Applicant that he/she has fully complied with the duty to disclose.

Response: Sections 6 through 8 of Remarks

9. Sections 6 through 8 of the Remarks are noted.

Response: Claim Interpretation (section 9 of Remarks)

10. Applicant is thanked for the careful review of the Office Action.

The claim interpretation is clarified as follows:

The mere ability, enablement, or adaptability to perform a function does not necessitate the performance of such function or its use. Therefore, if a limitation does not necessitate the performance of the function, an art that does not expressly prohibit the performance of the function

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anticipates its performance. This interpretation is support by MPEP 2111.04 [R-3], which recites in part:

"Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure. However, examples of claim language, although not exhaustive, that may raise a question as to the limiting effect of the language in a claim are: (A)"adapted to" or "adapted for" clauses; (B)"wherein" clauses; and (C)"whereby" clauses." (MPEP 2111.04)

The Examiner apologists for any confusion presented by the earlier claim interpretation statement.

Response: 35 USC § 102 Rejection

11. Applicant argues:

11.1 "Walters ('593) only has a single block of translated instructions corresponding to a single legacy instruction.

11.2 The Examiner's reliance on the Examiner's statement 'a legacy block can consist of a single legacy instruction' cannot apply to claim 1 which now recites 'each legacy block including a plurality of legacy instructions'." (Remarks section 10.4)

12. Examiner Response:

12.1 Applicant's attention is drawn to (col: 6 line: 59 to col: 7 line: 7 "the dynamic recompiler 116 would handle the execution of all the *instructions in non-native code applications*"; col: 3 line: 64 to col: 4 line: 3).

13. Applicant statements in sections 10.5 through 10.7 of Remarks:

13.1 "The Examiner's reliance on the code chunk map 180 of FIG 2 to teach the linking of Claim 1 is not proper. In Walters, the chunk map 180 map functions to indicate for each page, if the cache stores at least one code block corresponding to a non-native entry point instruction in the page."

14. Examiner Response:

14.1 The Examiner did not cite Fig 2 item 180 in the rejection of claim 1. The Examiner cited (Fig 5 step 230, col: 4 line: 35-44; the map links the translated blocks to their corresponding legacy blocks; linked group ... hash table).

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14.2 Sections 10.5 through 10.7 of the Remarks are noted. To further the prosecution in a compact manner, additional portions of the reference are cited for Applicant's convenience. These citations are non-exhaustive. The Applicant is respectfully reminded to carefully review the cited art in its entirety, not just the portions cited by the Examiner.

15. Applicant argues (section 10.9 of Remarks):

15.1 "The linking, if any, in Walters is to identify pages and Walters has no disclosure relating to linked executable translated instructions linked in a linked group."

16. Examiner Response:

16.1 The linking is inherent in Walters' disclosure. Specifically, after executing a set of instructions an entry point is detected which either points to additional native, non-native code, or non-native code that is translated and cached (**col: 7 line: 52-63 the entry point serves as a pointer to a next particular block (pre-defined set of non-native instructions); col: 5 line: 19-30; col: 7 line: 52-63**).

17. Applicant states in section 10.11-10.13, and section 11-11.2 of Remarks:

17.1 "As per Claim 3 as discussed in Section 10.7 above and contrary to the Examiner's argument regarding Claim 3, Walters does not operate such that 'all translated instructions in the group are purged when any are purged'" (emphasis in original) (Section 10.11 of Remarks).

18. Examiner Response:

18.1 Subsection 1 of the section *supra* amounts to mere allegation of patentability. See MPEP 716.01 (c) section II.

18.2 Regarding section 10.12 of the Remarks, the Examiner respectfully reminds the Applicant to review the cited art in its entirety. To further the prosecution in a compact manner, additional portions of the reference are cited for Applicant's convenience. These citations are non-exhaustive.

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19. Applicant's arguments are not persuasive for the above-enumerated reasons.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

20. Claims 1-6 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

MPEP 2106 recites, in part:

"...USPTO personnel shall review the claim to determine it produces a useful, tangible, and concrete result. In making this determination, the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather on whether the final result achieved by the claimed invention is "useful, tangible, and concrete." (emphasis added)

The method claims do not produce a useful, tangible, and concrete final result. The steps of the method claims do not produce a useful, tangible, and concrete final result. They merely recite a software algorithm, *per se*, which, for example, does not display, store, or otherwise provide a useful tangible output. Note exemplary claim 1 which only recites software steps and does not produce a useful tangible and concrete result. See MPEP 2106 [R-5].

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

21. Claims 1, 3, 5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Walters (**US 5,768,593**).

Walters discloses: 1. A computer-implemented method for dynamic emulation of legacy instructions comprising:

accessing said legacy instructions in legacy blocks, each legacy block including a plurality of legacy instructions (**col: 4 line: 4-8 legacy blocks ... "extended block of 'qualifying' non-native code"; col: 4 line: 20-28 instructions ... codes; col: 6 line: 18-26 ... legacy code**),

for each particular legacy instruction in a particular legacy block,

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translating the particular legacy instruction into one or more particular translated instructions for emulating the particular legacy instruction (**col: 7 line: 16-23; col: 7 line: 52-63**),

organizing the particular translated instructions into one or more particular translated blocks (**col: 7 line: 52-63**),

linking the particular translated blocks into a particular linked group corresponding to said particular legacy block; said linking using a link in each particular translated block to point to a location of the next particular translated block of the particular linked group (**col: 7 line: 52-63 the entry point serves as a pointer to a next particular block (pre-defined set of non-native instructions)**),

executing the particular translated instructions in the particular translated by sequentially executing the linked group translated blocks (**col: 5 line: 19-30; col: 7 line: 52-63**).

Walters discloses: 3. The method of Claim 1 wherein said particular translated instructions are stored in a cache and wherein said particular translated instructions are purged from said cache only when all said particular translated instructions of particular translated blocks are also purged from said cache (**Fig 3 item 164 and its description; col: 4 line: 46-57; col: 6 line: 28-29; col: 3 line: 35-44, col: 6 line: 3-10; Cache is not explicitly defined in the specification as such it takes its ordinary meaning in the art: A memory area where frequently accessed data can be stored for rapid access. Source: <http://www.orafaq.com/glossary/faqqlosc.htm>**).

Walters discloses: 5. The method of claim 1 wherein said legacy instructions are object code instructions compiled/assembled for a legacy architecture (**col: 1 line: 56 to col: 2 line: 4**).

As per claim 7, note the rejection of claim 1 above. The Instant Claim recites substantially same limitations as the above-rejected claim and therefore rejected under same prior-art teachings.

22. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Mann (**US 5,768,593**).

Mann discloses: 1. A computer-implemented method for dynamic emulation of legacy instructions comprising:

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accessing said legacy instructions in legacy blocks, each legacy block including a plurality of legacy instructions (**col: 5 line: 64-63**),

for each particular legacy instruction in a particular legacy block,

translating the particular legacy instruction into one or more particular translated instructions for emulating the particular legacy instruction (**Fig 3, 4, 5, and their descriptions; col: 2 line: 44-60**),

organizing the particular translated instructions into one or more particular translated blocks (**col: 2 line: 44-60**),

linking the particular translated blocks into a particular linked group corresponding to said particular legacy block; said linking using a link in each particular translated block to point to a location of the next particular translated block of the particular linked group (**col: 2 line: 44-60; col: 6 line: 11-28; col: 6 line: 47-61**),

executing the particular translated instructions in the particular translated by sequentially executing the linked group translated blocks (**col: 6 line: 11-28**).

As per claim 7, note the rejection of claim 1 above. The Instant Claim recites substantially same limitations as the above-rejected claim and therefore rejected under same prior-art teachings.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walters (**US 5,768,593**) as applied to claim 1 above, and further in view of Scalzi (**US 5,540,013**).

As per claim 4, Walters discloses all limitations of claim 1. Walters, although enabled to use the invention for S/390 architecture, does not explicitly disclose using such architecture in the emulation of the legacy system (**col: 1 line: 40-44**). Scalzi however discloses an analogous emulation system having the said

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feature (**col: 17 line: 54-67**). It would have been obvious to one of ordinary skill in the art <hardware emulation / software emulation / PowerPC emulation / virtual machines / etc> at the time of Applicant's invention. The motivation is given by the primary reference in (**col: 1 line: 40-44, col: 1 line: 18-25 ... IBM PC compatible computers**), i.e. in order to use the programs developed for one system on another system without having to re-design and re-development the programs; thus, saving cost, time and effort. As per claim 6, Walters discloses all limitations of claim 1. Walters is enabled such that translated instructions are for execution in a RISC architecture. Walters however does not explicitly disclose such a feature. Scalzi however discloses an analogous emulation system having the said feature (**col: 2 line: 3-23**). It would have been obvious to one of ordinary skill in the art <hardware emulation / software emulation / PowerPC emulation / virtual machines / etc> at the time of Applicant's invention. The motivation is given by the primary reference in (**col: 1 line: 40-44, col: 1 line: 18-25 ... IBM PC compatible computers**), i.e. in order to use the programs developed for one system on another system without having to re-design and re-development the programs; thus, saving cost, time and effort.

Examiner Notes

24. The Examiner thanks the Applicant for the exceptionally well-organized Response to Office Action.

Conclusion

25. All claims are rejected.

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6142682 A, and US 6529862 B1.

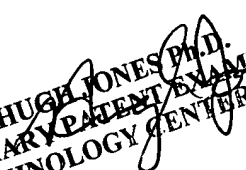
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Silver whose telephone number is (571) 272-8634. The examiner can normally be reached on Monday thru Friday, 10am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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